CASE REPORT – OPEN ACCESS

International Journal of Surgery Case Reports 4 (2013) 406–408

Contents lists available at SciVerse ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.elsevier.com/locate/ijscr

Buccal metastasis in a case of carcinoma breast: A rare case report with review of literature

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ARTICLE INFO

Article history:
Received 8 November 2012
Received in revised form 21 January 2013
Accepted 2 February 2013
Available online 8 February 2013

Keywords:
Carcinoma breast
Oral cavity
Metastasis

ABSTRACT

INTRODUCTION: Metastatic lesions to oral cavity from distant tumours account for 1% of all oral cavity malignancies. Oral cavity is a rare site of metastasis from the breast. We describe case report of breast cancer patient with metastasis to buccal mucosa.
PRESENTATION OF CASE: We report a case of pre-menopausal woman with left side infiltrating ductal carcinoma breast – T4aN1M0. She received three cycles of neo-adjuvant chemotherapy followed by modified radical mastectomy (MRM) and three cycles of adjuvant chemotherapy and loco-regional EBRT. She presented with a lump in region of MRM scar and a painful swelling in the right cheek, one year afterwards. Core needle biopsy from scar site revealed infiltrating ductal carcinoma. CECT revealed a heterogeneous lesion (1.1 cm × 1.7 cm) in right masticator space, which on biopsy revealed metastatic deposit consistent with infiltrating ductal carcinoma.
DISCUSSION: Metastatic lesions to oral cavity from distant tumours are uncommon. They mainly involve bony structures. Primary metastases to soft tissues are rare and accounts for 0.1% of oral malignancies. In our case, patient presented with scar recurrence and distant metastasis at an unusual site. Had it not been for scar recurrence, patient might not have presented to the OPD with oral swelling. A high degree of clinical suspicion and previous history of breast cancer led to detection of metastatic deposit.
CONCLUSION: Diagnosis of a metastatic lesion in buccal mucosa is challenging and requires a high degree of clinical suspicion.

1. Introduction

Metastatic lesions to the oral cavity from distant tumours are uncommon, accounting for only 1% of all oral cavity malignancies. They mainly involve the bony structures (particularly the mandible), whereas primary metastases to soft tissues are extremely rare (only 0.1% of oral malignancies).[1] The most common sites of metastasis are the tongue and gingiva followed by the lips, with occasional case reports of metastasis to the palatal or buccal mucosa.[2] We describe a case report of a patient of breast cancer with metastasis to the buccal mucosa.

2. Case presentation

We report a case of 30-year-old pre-menopausal woman who presented with a left sided breast lump, which was diagnosed as a case of infiltrating ductal carcinoma (triple negative) on core needle biopsy (T4aN1M0). Patient also had mobile Axillary lymph nodes in the ipsilateral axilla. Her metastatic work-up at the time of diagnosis was normal. Her computed tomography scan at that time reported a 6.1 cm × 5.7 cm × 7.2 cm heterogeneously enhancing mass lesion in left breast upper outer quadrant; involving pectoralis major and pectoralis minor. Left axilla shows heterogeneously enhancing node of 1.8 cm × 2 cm, fatty hila is lost. Clinically the mass was fixed to the chest wall. The patient was started on neo-adjuvant chemotherapy (NACT) with cyclophosphamide, doxorubicin, 5-fluorouracil (CAF) regimen and patient underwent modified radical mastectomy (MRM) after three cycles of NACT. Histological examination of the specimen revealed infiltrating ductal carcinoma (Fig. 1) with 4 out of 12 Axillary lymph nodes positive (Fig. 2). Patient then received three cycles of adjuvant chemotherapy and was being planned for adjuvant radiotherapy. Patient was treated on outpatient basis and was given external beam radiotherapy using Co-60 teletherapy machine. Patient was laid supine with arm abducted at 90° and head turned to opposite side. Breast tilt board with arm rest was used to stabilize the position. Radiotherapy was given using bilateral tangential fields along with supraclavicular and Axillary lymph nodal irradiation. Entire chest wall was included in the field with upper margin placed at head of the clavicle and lower margin was 2 cm inferior to the infra mammary fold. Medial border was 1 cm over the midline and lateral-posterior border in the mid Axillary line. Patient received a total tumour dose of

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2210-2612/$ – see front matter
http://dx.doi.org/10.1016/j.ijscr.2013.02.001

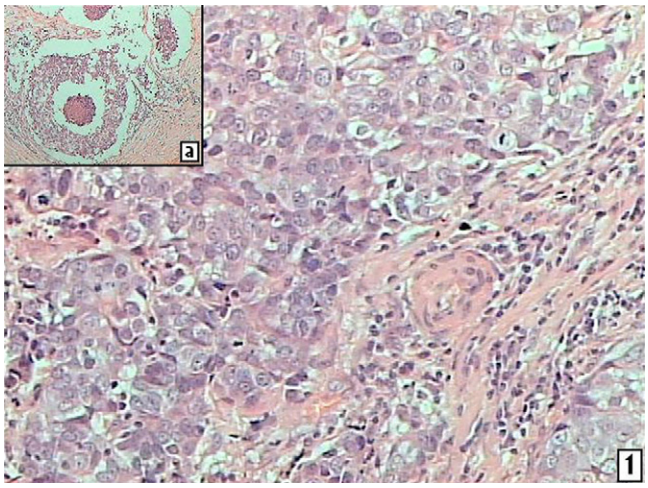

Fig. 1. Microscopic picture depicting infiltrating ductal carcinoma breast with BR score of 8. Inset (a) shows focal DCIS was observed in this case with comedo necrosis.

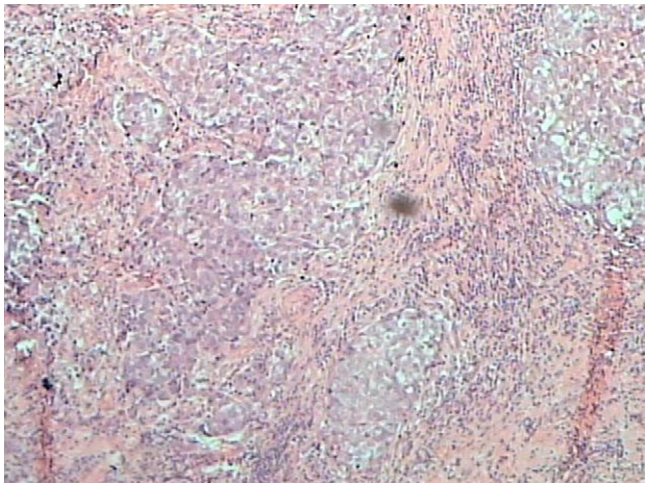

Fig. 2. Microscopic picture showing lymph node infiltration by the tumour.

50 Gy/25#/5 weeks at 2 Gy/#/day for 5 days a week. For supraclavicular lymph node irradiation lower border was matched to the upper border of the tangential field and medial border was 1 cm across the midline, extending upwards following medial border of sternocleidomastoid to thyrocricoid groove. Lateral border was extended laterally to cover 2/3 of the humoral head to treat full axilla and a dose of 50 Gy/25#/5 weeks was given. Additional posterior Axillary boost was given after 17# of EBRT. Following which patient was lost to follow-up.

She presented one year later to the surgical clinic with complaints of a lump in the region of the MRM scar and another hard, painful swelling in the right cheek, which was progressively increasing in size for the last 2 months. Fine needle aspiration cytology (FNAC) and core needle biopsy from the scar site lump revealed infiltrating ductal carcinoma.

A contrast enhanced computed tomography (CT) scan of the head and neck revealed a round heterogeneous lesion with rim enhancement measuring 1.1 cm × 1.7 cm in the right masticator space (Fig. 3). FNAC (fine needle aspiration cytology) from the cheek swelling, revealed a metastatic deposit of malignant cells. A biopsy from the swelling revealed a metastatic deposit consistent with infiltrating ductal carcinoma (Fig. 4). Immunohistochemistry revealed a triple negative carcinoma. A bone scan and abdominal ultrasound were normal.

Fig. 3. A 1.1 cm × 1.7 cm peripherally enhancing lesion is noted in right masticator space anterior to masseter muscle. The central part does not enhance suggestive of necrosis. Mild stranding is noted in surrounding fat. Posteriorly the lesion abuts masseter muscle. In k/c/o Ca breast findings are suggestive of deposit in masticator space.

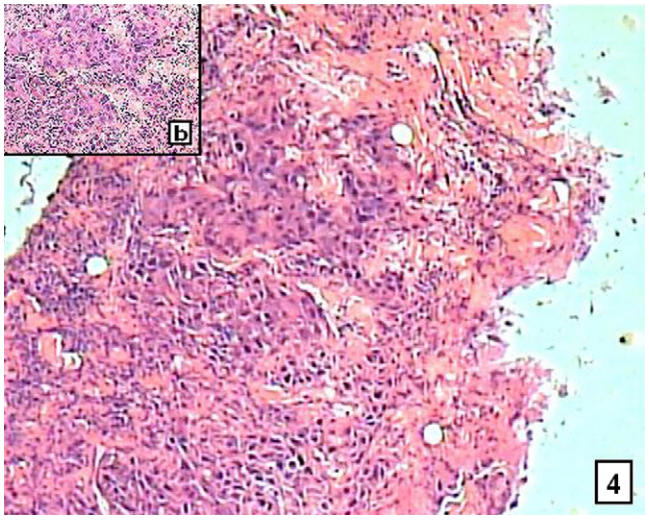

Fig. 4. A trucut biopsy the nodule in masticator space showing malignant cell cluster with a lymphoplasmacytic inflammatory response. Inset (b) shows a high power field of the same nodule.

Patient was explained about the surgical procedure, associated complications and prognosis after the procedure. However, the patient did not consent for surgery. Following which she was taken up for palliative treatment with docetaxel and cisplatin based chemotherapy regimen.

3. Discussion

The diagnosis of metastasis to the oral cavity is a challenge to the clinician because of the lack of pathognomonic signs and symptoms. A high index of clinical suspicion is necessary when evaluating patients with a history of no head and neck carcinoma. Metastatic lesions to the oral cavity from distant tumours are uncommon, accounting for only 1% of all oral malignancies. They mainly involve the bony structures (particularly the mandible), whereas primary metastases to soft tissues are extraordinarily rare (only 0.1% of oral malignancies). The most common sites of soft

tissue involvement are the gingiva, tongue, lips and the buccal and palatal mucosa. The primary tumours are mainly lung, breast, kidney and colon.[1]

Detection of oral lesions has great importance because they might be diagnosed first by the patient's dentist or the maxillofacial surgeon. The clinical presentation of metastatic lesions is different in various oral sites.[3] Patients often have vague or innocuous symptoms that can mimic dental infections, and sometimes the disease might be totally asymptomatic.[4,5] In a review of 114 cases of metastatic jaw tumours, D'Silva et al.[4] found that the most common jaw symptom was pain. Other signs and symptoms included swelling, presence of intraoral mass, loose or extruded teeth, cortical expansion, regional lymphadenopathy, gum irritation, ulceration, exophytic growth, halitosis, numbness or paresthesia of the lower lip, and trismus.[5] Special attention should be given to patients with numb-chin syndrome or mental nerve neuropathy, a symptom that should always raise the suspicion of a metastatic disease in the mandible.[6]

In most cases of oral metastasis, the distant primary tumour has already been diagnosed and often treated. Sometimes, however, the discovery of an oral metastasis leads to the detection of an occult primary malignancy elsewhere in the body.[3,7] In about one third of patients the oral lesion is diagnosed before the primary tumour.[7,8]

In our case, the patient presented simultaneously with scar recurrence and distant metastasis at an unusual site. Had it not been for the scar recurrence, the patient might not have presented to the out patient department (OPD) with the oral swelling. A high degree of clinical suspicion and previous history of breast cancer led to the detection of the metastatic deposit.

The clinical presentation and radiographic findings of a metastatic lesion can be deceiving, leading to a misdiagnosis of a benign process; therefore in such cases, especially in patients with a history of malignant disease, biopsy is mandatory for exact histopathological co relation.[3] Taking a thorough medical history along with a panel of immunohistochemical stains may be helpful in making the diagnosis.[4] In our case, after the history of breast cancer was established, a biopsy was performed. In addition, the pathologic slides of the breast tumour were requested and compared with the buccal lesion, which confirmed the final diagnosis.

Most of the patients with a metastases in the oral cavity also develop metastases at other sites, often leaving no other option than palliation.[7–10] However, Anderson Cancer Center has reported a 15-year disease-free survival rate of 24% in 134 patients with solitary loco regional recurrences or metastases treated with surgical resection, systemic therapy, and in selected cases, radiotherapy.[11] Nieto et al. reported the outcome of 60 patients with minimal metastatic disease treated with surgery and/or radiation therapy and high-dose chemotherapy. Included in this group were 17 patients with distant metastases at the time of breast cancer diagnosis. After a median follow-up of 62 months, 51.6% of the entire patient group (95% CI, 39–64%) remained alive and free of disease. In the patients with metastatic disease at presentation, 46% of those with distant metastases and three of four with supraclavicular metastases were alive and free of disease.[12] Herein this case the patient did not consent for the surgery. Local treatment gives relief in pain and may also prevent loss of function.[7] In general, survival of patients with advanced disease including metastases is poor, with maximum number of patients dying within a year of detection of the bony metastasis.[4]

4. Conclusion

Because of its rarity, the diagnosis of a metastatic lesion in the masticator space (buccal mucosa) is challenging. This case emphasized the importance of a complete and careful work-up, with particular attention to detailed medical history as well as careful clinical and radiographic inspection for unusual signs and symptoms. Immunohistochemistry correlation of the metastatic lesion in line with primary site also plays an important role in ruling out second primary in such cases of rare presentations.

Conflict of interest

None.

Funding

None.

Ethical approval

Informed consent was taken.

Author's contribution

Besides, writing the full content, Sunny Jain had done data collection with the help of Mohit Kadian and Rohan Khandelwal, and Sunny Jain had made data analysis teaming with Usha Agarwal and K.T. Bhowmik.

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